COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Southwest Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Royal Mouldings Limited
US 11 and Bear Creek Rd., Smyth County, Virginia
Permit No. SWRO10284

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Royal Mouldings Limited has applied for a significant modification of its Title V Operating Permit for its wood and plastic moulding manufacturing facility in Smyth County. The Department has reviewed the application and prepared a significant modification to the Title V Operating Permit.

Engineer/Permit Contact:_____ Date: April 9, 2007

Air Permit Manager:_____ Date: April 9, 2007

Deputy Regional Director:_____ Date: April 9, 2007

FACILITY INFORMATION

Permittee
Royal Mouldings Limited
P.O. Box 610
Marion, VA 24354-0610

Facility
Royal Mouldings Limited
Intersection of US 11 and Bear Creek Rd.
Smyth County, Virginia

County-Plant Identification Number: 51-173-00002

SOURCE DESCRIPTION

NAICS Codes: 326199 and 321918 – Polyvinyl chloride (PVC), styrene and cellular polyvinyl chloride (CPVC) flakes are mixed, colored and extruded in the Main Plant. The extruded mouldings may then be routed to hotstamping, mylar lamination and cutting operations. Wood mouldings are also routed to the latter three operations. Final mixing and application of paint to both the plastic and wood mouldings take place in the Prefinish area. Six primary finishing lines include a catalytic drying oven for each, with one exhaust stack for the coating application and one stack for the drying oven. All of the ovens are fired by natural gas. Coating systems consist of either fan or curtain coaters. Fan coaters have limited atomization, are usually used with high solids coatings, and may be controlled by filters to control particulate emissions. Finally, a printing process applies ink to plastic mouldings for a wood grain appearance. These inks are applied by moving green rolls, which are produced onsite by a molding, curing and glazing process.

The facility is a Title V major source of Volatile Organic Compounds (VOC). This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility is currently permitted under a minor new source review (NSR) permit dated February 9, 2005 (as amended August 29, 2006).

The previous significant modification dated August 23, 2005 of the Title V operating permit included the addition of two water-based coating lines. The permittee has applied to incorporate applicable requirements from the amended NSR permit affecting case-by-case determinations pertaining to a change from water-based coatings to solvent-based coatings on those two lines and resultant throughput limit adjustments to other processes to maintain emissions below PSD major source levels. In accordance with 9 VAC 5-80-590 A.2., a significant modification to the permit is required.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Coating Lines 1 and 2							
CL 1 & CL 2	CLS 1 – 2	Two Allied Metals fan coater systems (1995)	2.25 gal/hr, each	Fiberglass filters	CL 1-2 filters	PM (Particulate matter)	February 9, 2005 (as amended August 29, 2006)
Coating Lines 3 Through 6							
CL 3 – CL 6	CLS 3 – 6	Coating lines 3-6 (1968)	27.1 gal/hr (total)	Fiberglass filters	CL 3-6 filters	PM	February 9, 2005 (as amended August 29, 2006)
Storage Silos 1-6							
SS 1-6	SSS 1-6	Six storage silos for PVC & styrene – 4 (1968), 2 (2001)	5.346 tons/hr input and output	Baghouses (2) for PVC silos SS 1-4		PM	
PVC Extruders							
PVC-EX	EXS 1-8	PVC extruders (1968, 1998, 2000 and 2005)	7.772 tons/hr (total)				February 9, 2005 (as amended August 29, 2006)
Styrene Extruders							
STY-EX	EXS 1-8	Styrene extruders (1968)	1.702 tons/hr (total)				February 9, 2005 (as amended August 29, 2006)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Solvent Based Coating Line #7							
CL7	CL7-SB & CL7-Oven	Spray booth and 1.44 MMBtu/hr natural gas-fired oven (2005)	5.5 gal/hr	Fiberglass filter	CL7 filter	PM	February 9, 2005 (as amended August 29, 2006)
Solvent Based Coating Line #8							
CL8	CL8-SB & CL8-Oven	Spray booth and 1.44 MMBtu/hr natural gas-fired oven (2005)	5.5 gal/hr	Fiberglass filter	CL8 filter	PM	February 9, 2005 (as amended August 29, 2006)
Mylar Adhesive Process							
MYL-1	No stack	2 laminating machines and one curing oven (1968)	1395.6 linear ft/hr				
Catalytic Ovens 1 and 2 (Two Catalytic Industries ovens and two Model 415 Weather-Rite natural gas furnaces)							
CO1 & CO2	CO-Stacks 1 & 2	Combination electric/nat. gas as primary, alternate gas-fired Weather-Rite furnaces (1994)	1.8 MMBtu/hr per oven, 3.0 MMBtu/hr per furnace				
Catalytic Ovens 3 and 4 (Two Catalytic Industries ovens)							
CO3 & CO4	CO-Stacks 3 & 4	Combination electric/nat. gas (1994)	4.0 MMBtu/hr each				

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Catalytic Ovens 5 and 6 (Two Catalytic Industries ovens)							
CO5 & CO6	CO-Stacks 5 & 6	Combination electric/nat. gas (1994)	2.8 MMBtu/hr each				
Glaze Line							
GL	GLS	Glaze line spray booth (1983) and drying chamber	3.8 gal/hr	Fiberglass filters	CL filter	PM	February 9, 2005 (as amended August 29, 2006)
Roll Applicator Print Machines							
Roll 1-10	No stacks	10 roll applicator print machines inking mouldings from bath containers (1968)	28,246 linear ft/hr				February 9, 2005 (as amended August 29, 2006)
Roll 11-12	No stacks	2 roll applicator print machines inking mouldings from bath containers (2004)	5,649 linear ft/hr				February 9, 2005 (as amended August 29, 2006)
Green Roll Processing							
GRP-1	GRS 1	Molding, curing and glazing of Green Rolls (printing rolls) involving 3 electric vacuum drying ovens and 2 hoods (1968)	1 roll/hr				

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

Emissions are included below from the 2005 Emission Statement submitted to the Virginia Department of Environmental Quality for criteria pollutants.

2005 Facility Criteria Pollutant Emissions

	Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO_2	PM_{10}	NO_x
Facility	127.92	---	---	15.2	---

2005 Facility Hazardous Air Pollutant Emissions

	Hazardous Air Pollutant Emissions in Tons/Year
Total HAPs	44.25

EMISSION UNIT APPLICABLE REQUIREMENTS INVOLVING SIGNIFICANT MODIFICATION

Coating Lines 1 & 2 (CL 1 & CL 2)

Limitations

The following are new applicable requirements contained in conditions from the NSR permit issued on February 9, 2005 (as amended August 29, 2006):

> Condition 5: The volatile organic compound throughput for the two Allied Metals paint application fan coater spray systems shall not exceed 40 tons per year, as a combined total, calculated monthly as the sum of each consecutive 12-month period.
>
> *Condition III.A.2 in the Title V permit is revised to reflect the change in VOC throughput from 64 tons per year to 40 tons per year.*

Condition 6: The particulate matter throughput for the Allied Metals paint application fan coater spray systems shall not exceed 104.59 tons per year, as a combined total, calculated monthly as the sum of each consecutive 12-month period.

Condition III.A.2 in the Title V permit is revised to reflect the change in PM throughput from 167.34 tons per year to 104.59 tons per year.

Condition 15: Emissions from the operation of the two Allied Metals paint application fan coater spray systems, as a combined total, shall not exceed the limits specified below:

PM	2.87 lb/hr	7.84 tons/yr
PM-10	2.87 lb/hr	7.84 tons/yr
VOC	23.15 lb/hr	40.0 tons/yr

Condition III.A.4 in the Title V permit is revised to reflect the emission limits above.

Monitoring, Recordkeeping and Testing Requirements

Monitoring, recordkeeping and testing requirements reflected in the current Title V permit have not changed as a result of the modification.

Coating Lines 3 – 6 (CL 3 – CL 6)

Limitations

The following are new applicable requirements contained in conditions from the NSR permit issued on February 9, 2005 (as amended August 29, 2006):

Condition 8: The volatile organic compound throughput for Coating Lines 3 through 6 shall not exceed 90 tons per year, as a combined total, calculated monthly as the sum of each consecutive 12-month period.

Condition IV.A.4 in the Title V permit is revised to reflect the change in VOC throughput from 100 tons per year to 90 tons per year.

Condition 9: The particulate matter throughput for Coating Lines 3 through 6 shall not exceed 110 tons per year, as a combined total, calculated monthly as the sum of each consecutive 12-month period.

Condition IV.A.4 in the Title V permit is revised to reflect the change in PM throughput from 70.7 tons per year to 110 tons per year.

Condition 10: The volatile organic compound throughput for the Glaze Line shall not exceed 1.0 ton per year, calculated monthly as the sum of each consecutive 12-month period.

Condition IV.A.5 in the Title V permit is revised to reflect the change in VOC throughput from 10 tons per year to 1 ton per year.

Condition 11: The particulate matter throughput for the Glaze Line shall not exceed 0.7 ton per year, calculated monthly as the sum of each consecutive 12-month period.

Condition IV.A.5 in the Title V permit is revised to reflect the change in PM throughput from 7 tons per year to 0.7 ton per year.

Condition 16: Emissions from the operation of Coating Lines 3 through 6, as a combined total, shall not exceed the limits specified below:

PM	22.43 lb/hr	10.73 tons/yr
PM-10	22.43 lb/hr	10.73 tons/yr
VOC		90.0 tons/yr

Condition IV.A.6 in the Title V permit is revised to reflect the emission limits above.

Condition 17: Emissions from the operation of the Glaze Line shall not exceed the limits specified below:

VOC	1 ton/yr

Condition IV.A.7 in the Title V permit is revised to reflect the emission limit above.

Monitoring, Recordkeeping and Testing Requirements

Monitoring, recordkeeping and testing requirements reflected in the current Title V permit have not changed as a result of the modification.

Extrusion (Total)

Limitations

The following are new applicable requirements contained in conditions from the NSR permit issued on February 9, 2005 (as amended August 29, 2006):

Condition 13: The throughput of polyvinyl chloride (PVC) to the extrusion operations shall not exceed 95,000,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period.

Condition VI.A.1 in the Title V permit is revised to reflect the change in PVC throughput from 70,000,000 pounds per year to 95,000,000 pounds per year.

Condition 19: Emissions from the operation of the PVC extrusion operations, as a combined total, shall not exceed the limits specified below:

PM	3.01 tons/yr
PM-10	3.01 tons/yr
VOC	2.80 tons/yr

Condition VI.A.6 in the Title V permit is revised to reflect the emission limits above.

Monitoring, Recordkeeping and Testing Requirements

Monitoring, recordkeeping and testing requirements reflected in the current Title V permit have not changed as a result of the modification.

Solvent-Based Coating Lines CL 7 and CL 8 (Formerly Water-Based Coating Lines WB7 and WB8)

The heading of Section VII in the Title V permit is revised to reference the solvent-based Coating Lines 7 and 8 (CL 7 and CL 8) instead of water-based coating lines.

Limitations

The following are new applicable requirements contained in conditions from the NSR permit issued on February 9, 2005 (as amended August 29, 2006):

Condition 3: Particulate emissions from the solvent-based Coating Lines 7 and 8 shall be controlled by fiberglass filters, or equivalent.

Condition VII.A.1 in the Title V permit is revised to reference solvent-based coating lines 7 and 8 instead of water-based coating lines.

Condition 12: The throughput of the Valspar 1436W00226 White Styrene PVC Basecoat, or equivalent to the solvent-based coating lines 7 and 8 shall not exceed a total of 42,000 gallons per year, calculated monthly as the sum of each consecutive 12-month period.

Condition VII.A.2 in the Title V permit is revised to reflect the change to the Valspar basecoat. References to 5 Sheen Ext. WB Topcoat and water-based coating lines are removed.

Condition 23: Visible emissions from solvent-based Coating Lines 7 and 8 shall not exceed five (5) percent opacity.

Condition VII.A.3 in the Title V permit is revised to reflect the visible emissions limit for the solvent-based Coating Lines 7 and 8.

Condition 18: Emissions from the operation of the solvent-based Coating Lines 7 and 8, as a combined total, shall not exceed the limits specified below:

PM	3.29 lb/hr	6.28 tons/yr
PM-10	3.29 lb/hr	6.28 tons/yr
VOC	37.95 lb/hr	72.45 tons/yr

Condition VII.A.6 in the Title V permit is revised to reflect the emission limits above.

Monitoring

The provisions of 40 CFR Part 64, Compliance Assurance Monitoring do not apply to particulate emissions from solvent-based coating lines 7 and 8, since throughput restricts emissions below 100 tons per year without considering control from filters.

Condition VII.B in the Title V permit is revised to reference solvent-based coating lines instead of water-based coating lines. The monitoring requirements have not changed.

Recordkeeping

The following is a new applicable requirement contained in a condition from the NSR permit issued on February 9, 2005 (as amended August 29, 2006):

Condition 24.e: Keep records of monthly and annual throughput in gallons of Valspar 1436W00226 White Styrene PVC Basecoat, or equivalent, to the two solvent-based Coating Lines 7 and 8. Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

Condition VII.C.2 in the Title V permit is revised to reflect the above requirements. Reference to water-based coatings and coating lines is removed.

Testing Requirements

Testing requirements reflected in the Title V permit have not changed as a result of the modification.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, and includes notification requirements for 40 CFR Part 63, Subpart PPPP - National Emission Standards for Surface Coating of Plastic Parts and Products.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §§2.1-20.01:2 and §§10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excesses emissions reporting within 4 hours. Section 9 VAC 5-80-250 also requires malfunction reporting; however, reporting is required within 2 days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to this section including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. This facility is subject to both 9 VAC 5-20-180 and 9 VAC 5-80-250. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within 4 daytime business hours of the malfunction.

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in section 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on General Condition F.

FUTURE APPLICABLE REQUIREMENTS

The coating lines must comply with the requirements of 40 CFR Part 63, Subpart PPPP - National Emission Standards for Surface Coating of Plastic Parts and Products by April 19, 2007.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was published in the Smyth County News & Messenger on March 7, 2007. Copies of the draft/proposed permit and public notice were sent to the EPA for concurrent review by electronic mail on March 2, 2007. A copy of the public notice was sent to the affected states, including North Carolina, West Virginia and Tennessee, by postal mail on March 2, 2007. A copy of the public notice was sent to all persons on the Title V mailing list by postal mail or electronic mail no later than March 7, 2007.

Public comments were accepted from March 8, 2007, through April 6, 2007. No comments were received from the public, affected states or the EPA regarding the draft permit.